



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

RULE 37 CASE NO. 0282343
STATUS NO. 746550
DISTRICT 05

**TO CONSIDER THE APPLICATION OF CHESAPEAKE OPERATING, INC. FOR A
RULE 37 EXCEPTION, CANUCKS LEASE, WELL NO. 2H, NEWARK, EAST
(BARNETT SHALE) FIELD, TARRANT COUNTY, TEXAS**

HEARD BY: Laura E. Miles-Valdez - Legal Examiner
Paul Dubois - Technical Examiner

PROPOSAL FOR DECISION

PROCEDURAL HISTORY

APPLICATION FILED:	May 3, 2013
NOTICE OF HEARING:	June 14, 2013
HEARING DATE :	August 21, 2013
PFD CIRCULATION DATE:	June 9, 2014

APPEARANCES:

FOR APPLICANT:

Glenn E. Johnson, Attorney
Will Jordan, Attorney
David Triana, P.E.
Bill G. Spencer, Regulatory Consultant
Melissa Condley, Reservoir Engineer

APPLICANT:

Chesapeake Operating, Inc.

FOR PROTESTANTS:

Dennis Miller
Kenneth Meisner
Mark Hixson

REPRESENTING:

Himself
Himself, Tarrant Properties and 40 other parties
Himself and 40 other parties

STATEMENT OF THE CASE

STATEMENT OF THE CASE

Chesapeake Operating, Inc. ("Chesapeake" or "Applicant"), seeks to amend its drilling permit pursuant to the provisions of Statewide Rule 37 for the Canucks Lease, Well No. 2H, (a horizontal well) in the Newark, East (Barnett Shale) Field, Tarrant County, Texas. On August 16, 2012, Chesapeake filed the initial drilling permit for the Canucks 2H well. Chesapeake received a drilling permit on August 23, 2012 to drill its Well No. 2H on its pooled unit, which consisted of 276.65 acres at that time. The initial permit application was for a long lateral/short perforation permit and was approved administratively on August 23, 2012. The plat associated with that application is attached to this proposal for decision as Exhibit I, which is incorporated herein by reference.

An amended application for Well No. 2H was filed on April 18, 2013, which amended the unit to include newly added acreage to the pooled unit (now consisting of 284.27 acres) and amended the wellbore length seeking authority to perforate portions of the proposed wellbore located less than 330 feet from unleased tracts. The April 18, 2013 amended permit was administratively approved on April 23, 2013. The amended application at issue in this docket was filed on May 3, 2013 and seeks a Rule 37 exception. A Form P-12, a certificate of pooling authority, for the Canucks Lease showing that the Canucks Unit is 93.9% leased, was filed on August 20, 2013. Chesapeake has three wells currently drilled on the 304.345-acre Canucks Lease unit; 284.27 acres of the lease are leased by Chesapeake.

The surface location of Well No. 2H is offlease, 314 feet from the north line and offlease 904 feet from the east line and 314 feet from the north line and 904 feet from the east line of the R. Collins Survey. The penetration point is 1071 feet from the north lease line and 671 feet from the northwest lease line. The terminus is line 288 feet from the south line and 284 feet from the east line of the lease and 288 feet from the south line and 1349 feet from the east line of the Haynes, JW Survey. The lateral runs on an NW-SE trend. The well was proposed to be drilled at an approximate depth of 9000 feet.

Special gas field rules for the Newark, East (Barnett Shale) Field provide for 330 feet from the nearest lease line and zero (0) between wells on the same lease in the same field and reservoir on 320 acre proration units, with optional 20 acre units. As to horizontal wells, where the horizontal portion of the well is cased and cemented back above the top of the Barnett Shale formation, the distance to any property line, lease line, or subdivision line is calculated based on the distance to the nearest perforation point in the well, and not based on the penetration point or terminus. Where an external casing packer is placed in a horizontal well and cement is pumped above the external casing packer to a depth above the top of the Barnett Shale formation, the distance to any property line, lease line, or subdivision line is calculated based on the top of the external casing packer or the closest open hole section in the Barnett Shale. The standard drilling and proration unit for the Newark, East (Barnett Shale) Field is 320 acres. An operator is permitted to form optional drilling units of 20 acres.

Chesapeake contends that a Rule 37 exception is needed for the drilled Canucks Lease, Well No. 2H, because the section of the well proposed to be perforated is closer than 330 feet to the boundary of tracts which are internal to the unit and unleased. Mr. Dennis Miller presented a statement on his own behalf as the owner of unleased property near wellbore of the drilled Well 3H, located at 6900 Meadowbrook Drive. Messrs. Kenneth Meisner and Mark Hixson, appeared at the hearing in protest representing themselves, as well as representing forty unleased land owners.

DISCUSSION OF THE EVIDENCE

CHESAPEAKE OPERATING, INC.

Chesapeake seeks removal of the “no perforation zones” (“NPZs”) on its Canucks Lease, Well No. 2H which Chesapeake sought in its May 3, 2013 Commission-approved well permit. The NPZs are marked in red on the attached Exhibit II.¹ At the time this permit was approved, the Canucks Lease contained 278.99 leased acres in a 304.345-acre unit. By the time of the present hearing, on August 21, 2013, Chesapeake had leased additional acreage for a total of 284.27 leased acres. Chesapeake notes that the unit contains a total of 304.345 acres and that the unit is 93.9 percent leased. The subject well has been drilled, and testimony presented indicated that the subject well had not been completed at the time of the hearing.

An isopach map derived from the logs of nearby wells indicates the Barnett Shale is roughly 340 feet thick under the Canucks Lease. Devon Energy Production Co., LLP conducted a study of the Tarrant/Denton/Wise County area which calculated total gas in place at 139 BCF per square mile in those counties, based on an average formation thickness of 433 feet. Using that study, and correcting for the thickness of the Newark, East (Barnett Shale) Field under the Canucks Lease and the leased acreage, Chesapeake calculated the original gas in place beneath the 284.27 leased acres of the Canucks Lease. Assuming a recovery factor of 46%, Chesapeake calculates there is 22.414 BCF of recoverable gas beneath the leased acreage of Canucks Lease.

Chesapeake reviewed the Newark, East (Barnett Shale) Field wells within a 3-mile radius of the well, and found 108 wells within that radius. Plotting the estimated ultimate recovery (“EUR”) of each of the wells, Chesapeake developed a scatter diagram and used a “least squares regression” method to produce a trend line to predict the ultimate recovery of a well in the area based on its length. Based on the scatter diagram, with the drainhole length as the “x” axis and the estimated EUR in MMCF as the “y” axis, Chesapeake derived a well recovery formula of “ $y = 0.917x + 849.3$ ”. This indicates that each incremental foot of horizontal wellbore will recover an additional 917 MCF of gas, while a purely vertical well would recover approximately 850 MMCF. Thus, Chesapeake calculates its proposed full-length lateral of 5647 feet will recover 6.029 BCF of gas.

¹ Chesapeake Exh. 22.

The current NPZs limit the wellbore lateral available for perforation of the Canucks Lease, Well No. 2H, to 522 feet. Absent the removal of the NPZs, Chesapeake argues it would be left with a wellbore lateral available to perforate that is only 522 feet in length. The wellbore lateral available for perforation would recover only 1.328 BCF of gas, leaving 4.701 BCF unrecovered. Chesapeake argues that 4.701 BCF of gas is a significant quantity of hydrocarbons.

Chesapeake contends that leaving the NPZ's which cover just the protestant, Mr. Miller's unleased tract, would leave Chesapeake with a wellbore of 5050 feet and an EUR of 5.480 BCF. A 5050 foot wellbore would leave 0.549 BCF unrecovered. Chesapeake argues that 0.549 BCF of gas is a significant quantity of hydrocarbons. Additionally, Chesapeake contends that leaving the NPZ's which cover the Protestants Meisner and Hixson, and their constituents's unleased tracts, would leave Chesapeake with a wellbore limited to 1959 feet and an EUR of 2.646 BCF. A 1959 foot wellbore would leave 3.384 BCF unrecovered. Chesapeake argues that 3.384 BCF of gas is a significant quantity of hydrocarbons.

Chesapeake contends that failure to remove the NPZs would deprive Chesapeake and its lessors of the opportunity to produce their fair share of the recoverable hydrocarbons in place beneath the 284.27 leased acres of the Canucks Lease, which would be confiscation.

PROTESTANTS' POSITION AND EVIDENCE

Mr. Dennis Miller presented his statement as the owner of unleased property located along wellbore of the Well 2H, located at 6900 Meadowbrook Drive. Mr. Miller expressed his concerns as an unleased land owner and did not want to be forced to accept the terms of Chesapeake's offer to lease his land.

Also, appearing in protest were Mr. Kenneth Meisner and Mark Hixson, who represented themselves, and appeared on behalf of unleased land owners: Angela & Bernard Porter, Randall & Alice Peck, Winfred & Evelyn Wells, Sheryl & Gary White, Vicki Diane Bassham, Ed Leeds, Edward Maurice Thomas, Ernis Barber, Linda Cliburn, James & Margaret Borckert, Jack & Dorothy Morgan, Julie LaGrone, Michael & Leatta Logan, Judy Martin, Robert Bauereisen, Martha Hurm, Susan Miller, Mary Lee Blossom, Rachel Reyes, Martin & Florence Price, Kenneth Dyer, Wendy Ann Griffiths, Brenda & Charles Jordan, Roland & Debra Oliver, Mary Louise Johnson, Patricia Coleman, Tarrant Properties, Rune & Judy Aasa, and Russell Grieco.

Messrs. Meisner and Hixson testified that they protest the confiscation and taking of their mineral rights by Chesapeake Energy. Mr. Hixson and Mr. Meisner both expressed concern about Chesapeake's lack of "good faith" in applying for and receiving drilling permits on the Canucks

Lease unit.² Specifically, Mr. Meisner did a review of Commission records which he contends indicates a lack of good faith by Chesapeake. Based on his review, Mr. Meisner believes that Chesapeake has a history of applying for and receiving drilling permits, and exceptions under SWR 37, which essentially allows Chesapeake to winnow down Protestants and then leave a small percentage of unleased mineral interest owners. Mr. Meisner argues those small percentage of unleased mineral interest owners, under an application for a Statewide Rule ("SWR") 37 exception, are then robbed of the opportunity to enjoy the benefits of Chesapeake's well as royalty owners, or are left with the traditional remedies of self-help by drilling their own well or of bringing an MIPA. They asserted that a grant of this Statewide Rule 37 permit would be tantamount to a reverse forced pooling of the unleased properties that lie within the envelope that describes the distance 330 feet from the perforated well path. If Chesapeake's Rule 37 exception were granted, the Protestants would consider it an involuntary appropriation of their mineral rights. Mr. Meisner requests that the Commission grant relief which compensates the unleased mineral interests owners, along the lines that were granted in the Finley case³.

EXAMINERS' OPINION

It is the basic right of every landowner or lessee to a fair and reasonable chance to recover the oil and gas under their property as recognized by the Texas Supreme Court in *Gulf Land Co. v. Atlantic Refining Co.*, 131 S.W.2d 73, 80 (Tex. 1939). Denial of that fair chance is confiscation within the meaning of Rule 37. *Id.* To obtain an exception to Statewide Rule 37 to protect correlative rights and prevent confiscation, the applicant must show that 1.) it is not possible for the applicant to recover its fair share of minerals under its tract from regular locations; and 2.) that the proposed irregular location is reasonable.

The examiners are of the opinion that approval of the Statewide Rule 37 exception requested by Chesapeake is necessary to prevent confiscation and protect correlative rights. Chesapeake and its lessors are entitled to recover as much as possible of their fair share of gas from beneath the Canucks Lease. "Fair share" is measured by the currently recoverable reserves beneath the lease, which in this case is 22.414 BCF. The evidence shows that it is not feasible for Chesapeake to recover its fair share of gas from regular locations in the unit. The Canucks Lease Well No. 2H, at its full length of 5647 feet is projected to recover 6.029 BCF over its useful life.

² While it was explained to Protestants that the Commission's definition of "good faith" is a statutory legal term that applies to challenges to the right of an operator to maintain a lease, Protestants used "good faith" in laymen's terms - meaning that Chesapeake acted without good intentions.

³ Oil & Gas Docket No. 09-0252373: Application of Finley Resources, Inc. for the Formation of a Unit Pursuant to the Mineral Interest Pooling Act for the Proposed East Side Unit, Newark, East (Barnett Shale) Field, Tarrant County, Texas.

The issues raised by Protestants, regarding the alleged confiscation of their mineral rights, may be remedied. First, as unleased mineral interest owners Protestants have the option of leasing their minerals to Chesapeake so that they may receive royalty payments for the recovery of their proportional share of the minerals in the Canucks Lease. Second, if the Protestants believe the terms they are being offered are not reasonable, they may file an application under the Mineral Interest Pooling Act and let the Commission determine whether they should be included in the unit. Third, the Protestants have the right to choose to lease to another operator or to seek a permit themselves and drill their own wells on their mineral property. Although the practicality of this remedy is doubtful due to the relative small size of the Protestants' tracts, it is a potentially available remedy under the law. Additionally, while Mr. Meisner requested that the Commission grant relief which compensates the unleased mineral interests owners, along the lines that were granted in the Finley case⁴; that remedy is unavailable in this case. That docket was heard pursuant to the Mineral Interest Pooling Act, while the present docket is a Statewide Rule 37 exception case.

The subject 2H well, as currently permitted, is subject to two NPZ restrictions. The NPZs of 1307.35 feet and 3820.44 feet total 5127.79 feet. Given the NPZs, the effective length of the wellbore is 522 feet, and is projected to recover 1.328 BCF. Chesapeake's proposed full wellbore length is 5647 feet, and is projected to recover 6.029 BCF of gas. The NPZ restrictions in the current permit result in the reduced production of 4.701 BCF of gas that would otherwise be recoverable.

The examiners find that 4.701 BCF of gas is a substantial quantity of hydrocarbons that would go unrecovered if the "no perforation zone" restrictions are not removed. Testimony provided indicated that failure to remove the wellbore restrictions would result in the confiscation of the fair share of reserves attributable to Chesapeake and its lessors.

The examiners recommend Chesapeake be granted an exception to Statewide Rule 37 for its Well No. 2H on the 284.27 leased acres of the 304.345-acre Canucks Lease unit in Tarrant County based on prevention of confiscation. Based on the record in this docket, the examiners recommend adoption of the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. At least 10 days notice of this hearing was given to the designated operator, all offset operators, all lessees of record for tracts that have no designated operator, and all owners of record of unleased mineral interests for each affected adjacent tract.

⁴ Oil & Gas Docket No. 09-0252373: Application of Finley Resources, Inc. for the Formation of a Unit Pursuant to the Mineral Interest Pooling Act for the Proposed East Side Unit, Newark, East (Barnett Shale) Field, Tarrant County, Texas.

2. Chesapeake Operating, Inc. ("Chesapeake" or "Applicant"), seeks an exception to Statewide Rule 37 for the Canucks Lease, Well No. 2H, in the Newark, East (Barnett Shale) Field in Tarrant County.
3. On August 23, 2012, Chesapeake obtained a permit to drill Well No. 2H on the 276.65 leased acres of the 304.345-acre Canucks Lease. The plat associated with that application is attached to this proposal for decision as Exhibit I, which is incorporated into this finding by reference. Chesapeake received a drilling permit on August 23, 2012 to drill its Well No. 2H on its pooled unit, which consisted of 276.65 acres at that time. The initial permit application was for a long lateral/short perforation permit and was approved administratively on August 23, 2012.
4. On April 18, 2013, Chesapeake filed an amended application for Well No. 2H, which amended the unit to include new acreage to the pooled unit consisting of 284.27 acres, and amended the wellbore seeking to designate non-perforation zones for the unleased portions of the wellbore. This amended permit was administratively approved April 23, 2013.
5. On May 3, 2013, Chesapeake filed a Rule 37 exception which is at issue in this docket. The plat for the current application is attached as Exhibit III.
6. On August 20, 2013, Chesapeake filed a Form P-12, a certificate of pooling authority, for the Canucks Lease showing that the Canucks Unit is 93.9% leased.
7. A Rule 37 exception is needed for the drilled Canucks Lease, Well No. 2H, because sections of the well proposed to be perforated are closer than 330 feet to the boundaries of certain tracts internal to the unit that are unleased.
8. Special field rules for the Newark, East (Barnett Shale) Field provide for 330 foot leaseline spacing. As to horizontal wells, where the horizontal portion of the well is cased and cemented back above the top of the Barnett Shale formation, the distance to any property line, leaseline, or subdivision line is calculated based on the distance to the nearest perforation point in the well, and not based on the penetration point or terminus. Where an external casing packer is placed in a horizontal well and cement is pumped above the external casing packer to a depth above the top of the Barnett Shale formation, the distance to any property line, leaseline, or subdivision line is calculated based on the top of the external casing packer or the closest open hole section in the Barnett Shale. The standard drilling and proration unit for the Newark, East (Barnett Shale) Field is 320 acres. An operator is permitted to form optional drilling units of 20 acres.
9. The surface location of Well No. 2H is 314 feet from the north (off lease) line and 904 feet from the east (off lease) line and 314 feet from the north line and 904 feet from the east line

of the R. Collins Survey. The proposed penetration point is 1071 feet from the north line and 671 feet from the northwest line of the lease. The terminus is 288 feet from the south line and 284 feet from the east line of the lease and 288 feet from the south line and 1349 feet from the east line of the Haynes, JW Survey. The lateral runs on an NW-SE trend. The well is proposed to be drilled at an approximate depth of 9000 feet.

10. The Chesapeake application is opposed by some of the owners of unleased tracts internal to the Canucks Lease. The tracts are within 330 feet of the proposed lateral.
 - a. Mr. Dennis Miller owns 6900 Meadowbrook Dr., an unleased tract within the Canucks Lease.
 - b. Mssrs. Meisner and Hixson appeared at the hearing representing themselves and unleased landowners within the Canucks Lease: Angela & Bernard Porter, Randall & Alice Peck, Winfred & Evelyn Wells, Sheryl & Gary White, Vicki Diane Bassham, Ed Leeds, Edward Maurice Thomas, Ermis Barber, Linda Cliburn, James & Margaret Borckert, Jack & Dorothy Morgan, Julie LaGrone, Michael & Leatta Logan, Judy Martin, Robert Bauereisen, Martha Hurm, Susan Miller, Mary Lee Blossom, Rachel Reyes, Martin & Florence Price, Kenneth Dyer, Wendy Ann Griffiths, Brenda & Charles Jordan, Roland & Debra Oliver, Mary Louise Johnson, Patricia Coleman, Tarrant Properties, Rune & Judy Aasa, and Russell Grieco.
11. Protestants Meisner and Hixson believe that if Chesapeake's Rule 37 exception were granted, it would be tantamount to an involuntary appropriation of their mineral rights.
12. The Barnett Shale formation is present and productive under the entirety of the Canucks Lease.
13. At the time of the hearing, the leased acreage in the Canucks Lease had increased to 284.27 acres. The Canucks Lease unit contains a total of 304.345 acres within its boundaries and is 93.9 percent leased.
14. To establish the currently recoverable reserves under the 284.27 leased acres of the 304.345 Canucks Unit, Chesapeake used a volumetric calculation:
 - a. Available well logs in the vicinity of the Canucks Lease indicate the thickness of the Barnett Shale locally to be 340 feet.
 - b. A study conducted by Devon Energy Production Co., LLP for the Tarrant/Denton/Wise County calculated original gas in place at 139 BCF per square mile in those counties, based on an average formation thickness of 433 feet. Using that study, and correcting for the thickness of the Newark, East

(Barnett Shale) Field under the Canucks Lease and the leased acreage, and assuming a recovery factor of 46%, Chesapeake calculated the original gas in place to be 22.414 BCF of recoverable gas beneath the Canucks Lease.

15. Chesapeake reviewed the Newark, East (Barnett Shale) Field wells within a 3-mile radius of the proposed well, finding 108 wells within that radius. Plotting the estimated ultimate recovery (EUR) of each of the wells, Chesapeake developed a scatter diagram and used a least squares regression method to produce a trend line to predict the ultimate recovery of a well in the area based on its length. Based on the scatter diagram, with the drainhole length as the "x" axis and the estimated EUR in MMCF as the "y" axis, Chesapeake derived a well recovery formula of $y = 0.917x + 849.3$. This indicates that each incremental foot of horizontal wellbore will recover an additional 917 MCF of gas, while a purely vertical well would recover approximately 850 MMCF. Thus, the proposed full-length lateral of 5647 feet should recover 6.029 BCF of gas.
16. The subject 2H well is subject to two NPZ restrictions totaling 5127.79 feet.
 - a. The regular and effective length of the wellbore of Well No. 2 is 522 feet, which is projected to recover 1.328 BCF.
 - b. The full wellbore without NPZ's would be 5647 feet, and is projected to recover 6.029 BCF of gas.
 - c. The NPZ restrictions would result in the failure to recover 4.701 BCF of gas that would otherwise be recoverable.
17. The amount of gas that would go unrecovered absent removal of the 5127.79 feet of NPZs, 4.701 BCF, is a significant quantity of hydrocarbons.
18. Chesapeake's fair share of gas in place beneath the Canucks lease is 22.414 BCF of gas.
19. Chesapeake's other existing and permitted well (Well No. 1) on the Canucks unit will recover 2.915 BCF of gas. Granting the requested Rule 37 exception for the Canucks Well No. 2H will allow Chesapeake and its lessors to recover more of their fair share of hydrocarbons under the pooled unit.
20. The drilled location of the Canucks Lease Well No. 2H is reasonable.
 - a. Based on 500 foot well spacing, the Canucks Lease will accommodate three wells.
 - b. If the location of the Canucks Lease Well No. 2H were moved to the northeast or to

the southwest, it would interfere with the recoveries of Well Nos. 2H and 3H.

CONCLUSIONS OF LAW

1. Proper notice of hearing was timely given to all persons legally entitled to notice.
2. All things have occurred to give the Commission jurisdiction to decide this matter.
3. Approval of a Rule 37 exception for removal of the NPZs currently part of the drilling permit for the drilled location of the Canucks Lease, Well No. 2H, as proposed by Chesapeake Operating, Inc. is necessary to prevent confiscation and protect the correlative rights of the mineral owners.


RECOMMENDATION

The examiners recommend the application of Chesapeake Operating, Inc., for a Statewide Rule 37 exception removing the NPZ's for the drilled location of the Canucks Lease, Well No. 2H in the Newark, East (Barnett Shale) Field, Tarrant County, be granted as necessary to prevent confiscation.

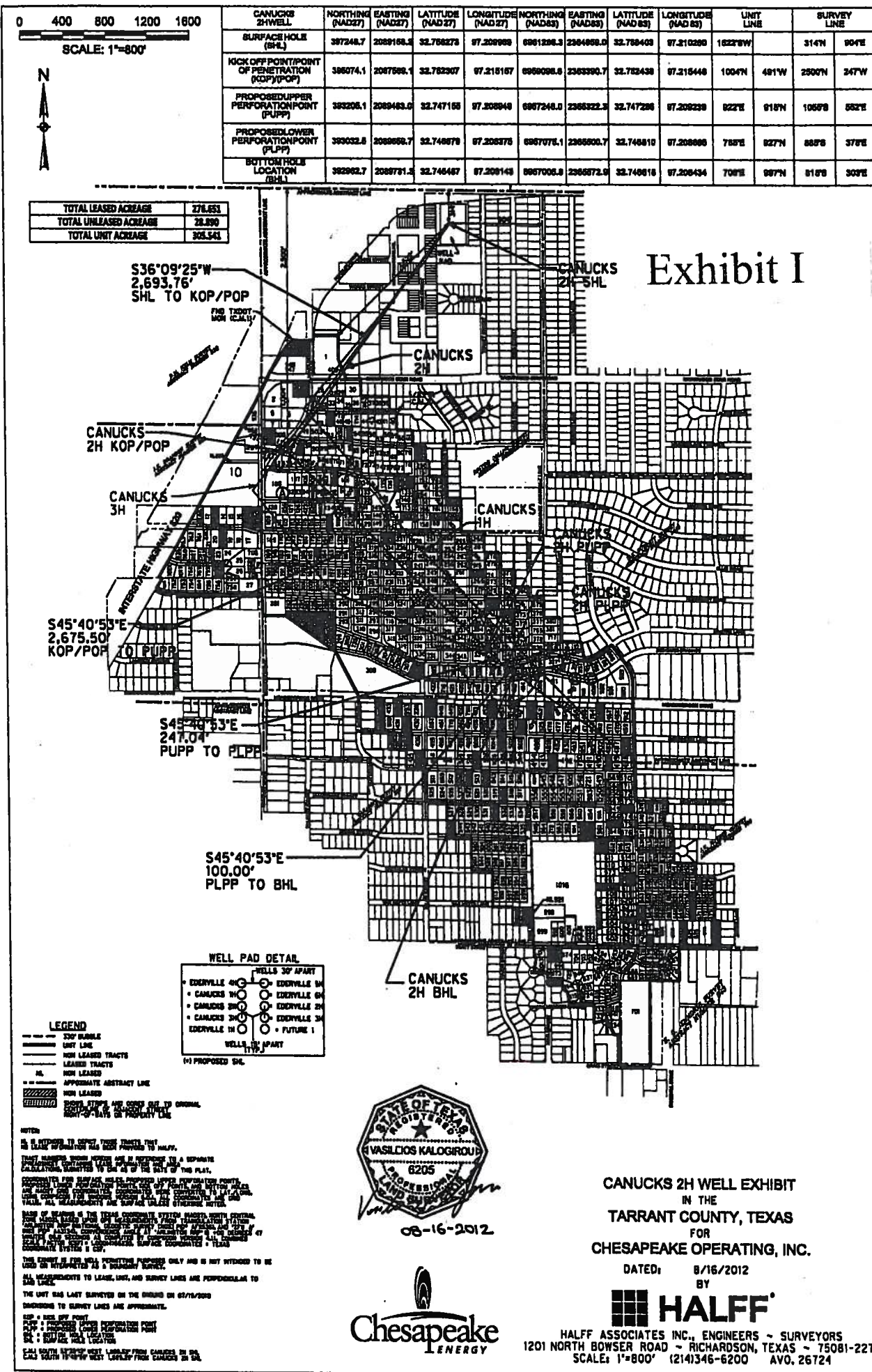
Respectfully submitted,



Laura E. Miles-Valdez
Legal Examiner



Paul Dubois
Technical Examiner





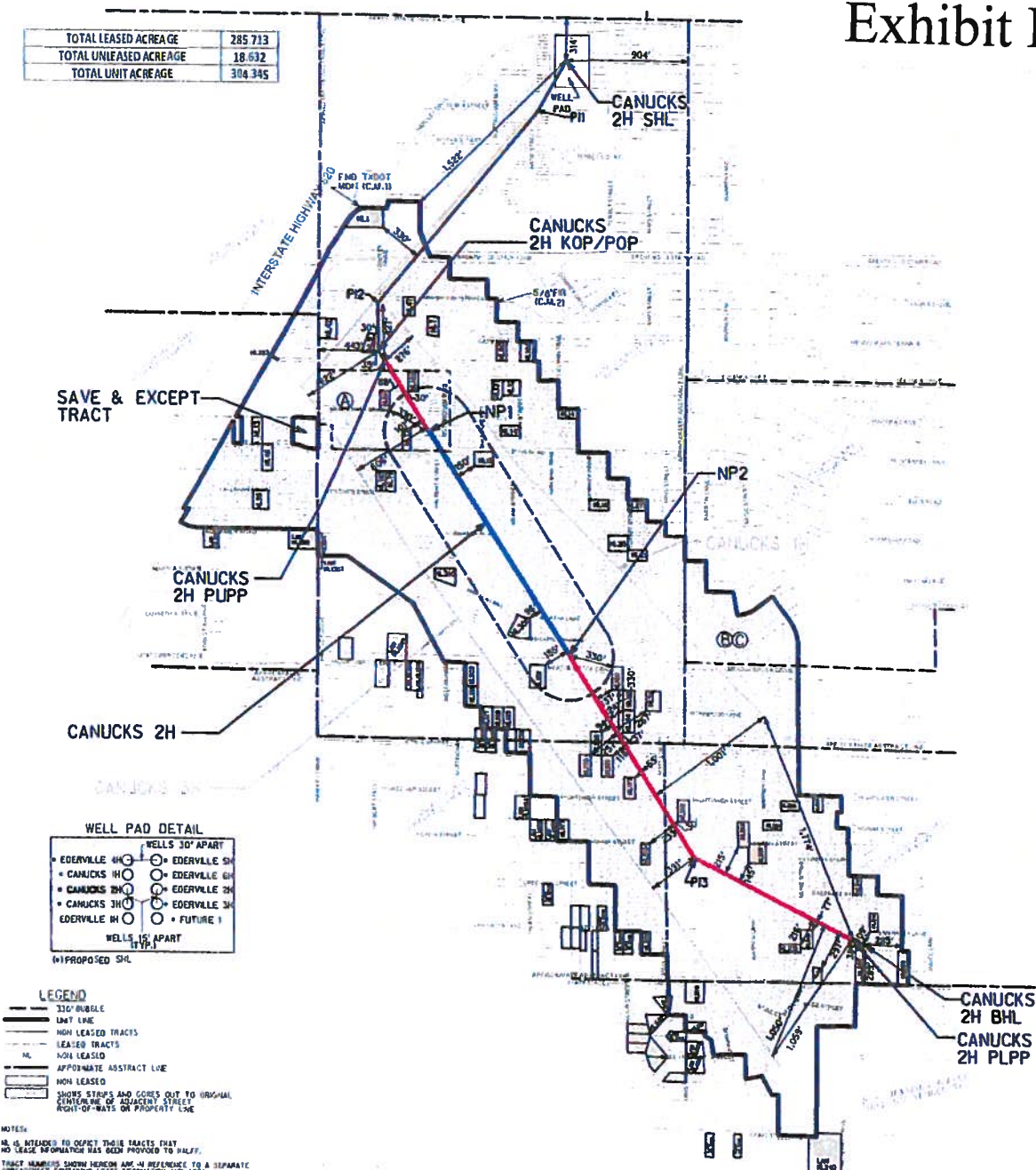
SCALE: 1"=800'

TOTAL PERFORATED LATERAL LENGTH	1,959.65
TOTAL NON-PERFORATED LATERAL LENGTH	3,692.45
TOTAL LATERAL LENGTH	5,649.50

	DISTANCE	ZONE TYPE
ZHWELL		
SHLTOP1	435.04	-
PHTOP2	1874.51	-
PI2 TO KCP	360.03	-
KCP TO PUPP	39.09	-
PUPP TO NP1	615.11	NON-PERF ZONE
NP1 TO NP2	1059.05	PERF ZONE
NP2 TO PI3	1755.26	NON-PERF ZONE
PI3 TO PUPP	1313.13	NON-PERF ZONE
PUPP TO EHL	93.09	-

TOTAL LEASED ACREAGE	285 713
TOTAL UNLEASED ACREAGE	18 632
TOTAL UNIT ACREAGE	304 345

Exhibit II

[illegible]

CANUCKS 2H WELL EXHIBIT
IN THE
CITY OF FORT WORTH,
TARRANT COUNTY, TEXAS
FOR
CHESAPEAKE OPERATING, INC.

DATED: 8/15/2013
BY



HALFF ASSOCIATES INC., ENGINEERS ~ SURVEYORS
1201 NORTH BOWSER ROAD ~ RICHARDSON, TEXAS ~ 75081-2275
SCALE: 1"=800' (214)346-6200 AVO. 26724

Exhibit No. 22 127
CHESAPEAKE OPERATING INC.

Rule 37 Case No 0282343

August 21, 2013

